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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,708	07/31/2000	DANIEL M. GINOSAR	LIT-PI-099	5703

7590 11/29/2002  
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EXAMINER

MEDLEY, MARGARET B

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 11/29/2002

16

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

09/554,708

GINOSAR ET AL.

Examiner

Art Unit

Margaret B. Medley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7-9-2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>14</u> . | 6) <input type="checkbox"/> Other: _____                                    |

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**DETAILED ACTION**

There are several references that are missing from the Disclosure Statement Form PTO-1449 of sheets 1, 2, Paper No. 14 dated February 11, 2002. References AA, AB, and AH were missing from sheet 1, but the examiner have found copies of said references. References AS, AT, AV and AW are missing from sheet 2, and references CK, CL and CM are missing from sheet 5. Applicants are requested to furnish to the offices copies of references AS, AT, AV, AW of sheet 2, and references CK, CL, and CM of sheet 5 that were missing and listed on Form PTO-1449.

On page 1 of Form PTO-829, AK is listed as attachment. It is unclear what is the intended attachment.

There are numerous pages concerning the CHNDM exhibition contract related to Eames' contract and the Library of Congress that did not appear to be pertinent to the instant application.

The disclosure is objected to because of the following informalities: (On page 8 in line 8 of the second paragraph, the numeral "112" after the product stream is required to be corrected to read as --114--. The requested amendment to line 13 of page 10 was not entered in Paper No. 21, dated January 4, 2002 because the amendment was not appropriated for page 10.

Appropriate correction is required.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 30 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation in the last two lines for "controlling the temperature and pressure of the reaction conditions" is considered as new matter. The specification at page 8 provides for modifying the temperature and/or pressure to separate.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The feature of claim 26 that the "short chain alcohol is dissolved in the critical fluid medium duplicate step 3 of claim 16 and does not provide a further limitation of said claim. The claimed should be canceled.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The co-solvent selected from the groups consisting of methanol, ethanol, butanol, and water of claim 27 is indefinite and confusing because it is unclear when the said components are short chain alcohol and water of step 3 or co-solvent of claim 27.

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Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The co-solvents selected from the group consisting of methanol, ethanol, butanol, and water of step 2 and the C<sub>1</sub>-C<sub>4</sub> short chain alcohol and water of step 3 is indefinite and confusing because it is unclear when the component is a co-solvent and when it is a short chain alcohol and water.

Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The last paragraph that "wherein the critical fluid is one selected to have a critical temperature within about 20% of the reaction temperature and a critical pressure as modified by a co-solvent within a range of about 0.5 to about 15 times the reaction pressure" is in conflict with the specification at lines 6-8 of the first paragraph that reads as:

**---Reaction temperatures should be within 20% of the critical temperature of the fluid as measured in Kelvin, and pressure within 0.5-15 times critical pressure as modified by any co-solvent.---**

Also, there is lack of support for the co-solvent in line 16 that is not provide for the previous part of the said claim.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16-17, 20-23, 26-27 and 29-30 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Vieville et al (Vieville).

Vieville teaches and discloses a process for esterification of oleic acid by methanol in the presence of a solid catalyst e.g. p-toluenesulfonic acid or a cation-exchange resins K 2411 and K 1481 in supercritical carbon dioxide (SC-CO<sub>2</sub>) fluid, note column 2 of page 2065 to column 1 of page 2066, figures 1-5 and Table IV. Vieville further teaches that water is used in placed of methanol and that the organic phase is separated from the catalyst by a filtration process, see the bridging paragraph of columns 1-2 of page 2065. The temperature of 313 K and the pressure up to 300 bars is used for the esterification of the fatty acid by methanol and a solid catalyst in the presence of SC-CO<sub>2</sub> that anticipates the instant claims.

While Vieville is silent to the teachings that the glycerol drops out of the reaction, it is the examiner position that the glycerol that is inherently produced in the reaction inherently drops out of the reaction of Vieville because the fatty acid, solid catalyst, SC-CO<sub>2</sub> fluid reaction temperatures and pressures is the same as that of the instant claims and therefore inherently produces the same reaction products under the reaction conditions.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and



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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 18-19, 24-25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieville et al (Vieville) as applied to claims 16-17, 20, 23, 26-27 and 29-30 above, and further in view of Mr. Daniel et al (McDaniel).

Applicants further teach a liquid phase catalyst (note claims 18-19) for esterification of the fatty acid wherein Vieville uses a solid catalyst and is silent to the teachings of a liquid phase catalyst.

Applicant further teaches a step for separating the alkyl ester from the critical fluid (note claims 24 and 28) after esterification of the fatty acid wherein Vieville separate the alkyl ester from the solid catalyst and is silent to explicit teachings of separating the ester from the critical fluid.

Applicant further teaches a step for recycling the critical fluid for use in a later reaction (note claim 25) where in Vieville is silent to said recycling step.

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With respect to the first issue (claims 18-19) McDaniel teaches a process for esterification of a fatty acid by methanol and a liquid HCL in the presence of supercritical fluid extraction wherein the liquid HCL catalyst increases esterification by 10 fold, note the abstract, Figure I, Table 2 and Section 3.5 on page 206. McDaniel further teaches the same process of Vieville produced in the presence of a solid catalyst, note lines 7-14 of column 1 of page 202. McDaniel provides the teachings and motivation for the use of a liquid HCL for the esterification of the fatty acid of Vieville.

With respect to the second issues (claims 24 and 28) McDaniel teaches that a decrease in the temperature should be used to separate the methyl ester to avoid the lost of the ester in the reaction, not section 3.6 of pages 206-207 providing the teachings to reduce and control the temperature of the reaction of Vieville to separate the ester from the critical fluid with reasonable success for recovering the maximum yield of esters.

With respect to issues three (claim 25) McDaniel teaches the artisan to separate the ester from the supercritical fluid extraction, note the extraction. Vieville teaches the artisan to separate the ester from the catalyst and it is the examiner position that the critical fluid would be present along with catalyst in the separation of the ester from the catalyst. It would have been obvious to the artisan in the art to recycle the critical fluid in another process to save cost and time involved in the waste disposal of a waste product. A recycle step does not make an obvious process patentable.

The prior art cited but not applied further teaches processes for esterification of fatty acid, fats, oils, waxes and triglycerides of the same nature claimed by applicant.




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Any inquiry concerning this communication from the examiner should be directed to Margaret B. Medley whose telephone number is (703) 308-2518. The examiner can generally be reached on Monday--Friday from 7:30 a.m. to 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone numbers for the organization where this application is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0661.

M.B. Medley/dh  
November 25, 2002

  
MARGARET MEDLEY  
PRIMARY EXAMINER